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Simulation of the COBRA Double-Beta Decay Experiment

Thursday 13 September 2007 17:00 (20 minutes)

Summary

The COBRA experiment aims to search for neutrinoless double beta decay using a large array of Cadmium Zinc Telluride crystals. Radioisotopes together with muons and neutrons provide the major sources of background for such a search. A GEANT4-based simulation has been developed for COBRA to understand these background sources in the current experiment and to provide a performance modelling tool for future detectors. This talk will describe the COBRA simulation and highlight two aspects; the use of the Radioactive Decay Module for simulating single and multiple isotope decays, and the generation of event vertices in many small volumes.

Presenter: MORGAN, Ben (University of Warwick, UK)

Session Classification: Parallel Session 1 (b) - Low Background Experiments

Track Classification: Geant4 Users Conference : Low background